Session 1A: *Cladophora* and its Impacts: Ecological Links, Monitoring, Pathogens, and Management Implications

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Surveying for *Cladophora* distribution & water chemistry on the nearshore of Western L. Michigan, 2004-2007

Paul J. Garrison¹, Steve R. Greb¹, and Gina LaLiberte¹

¹ Wisconsin Dept. of Natural Resources, Science Services, 2801 Progress Rd. Madison, WI 53716.

The Wisconsin Department of Natural Resources has been sampling the Western Lake Michigan nearshore for the last 4 years. Samples have been collected two times a year, once during late summer and secondly, either spring or early summer. Samples were generally collected at 17 sites from Kenosha to the Fayette Peninsula of the UP. Four additional sites were sampled in central and northern Green Bay. Surface and bottom samples were generally collected at 10 m water depth for nutrients, water clarity, chlorophyll, light, dissolved oxygen, temperature, and a few other parameters. Samples were also analyzed for the productivity of the *Cladophora* community as well as its distribution. At a few sites biomass was estimated on a seasonal basis.

The phosphorus species concentrations generally decline from south to north to Washington Island and then are similar in the northern portion of the lake. In contrast, total nitrogen levels are generally similar from south to north, or perhaps decline slightly. The nitrate levels decline from south to north, but levels are similar from Door Peninsula and northern portion of the lake. These trends may reflect the extent of agricultural activity in the eastern watersheds of the state. The concentrations of total nitrogen and phosphorus are higher in Green Bay than on the lake side. The *Cladophora* productivity south/north trend doesn't seem to be related to nutrient trends. Unlike *Cladophora* in the eastern Great Lakes and Green Bay, the Lake Michigan population has a significant diatom community associated with it.

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